

REMARKS

I. STATUS OF THE CLAIMS

Claims 12-17 are canceled herein.

New claims 18-21 are added herein. New claims 18 and 19 are similar to original claims 5 and 6, respectively. New claims 20 and 21 are somewhat similar to the amended claim 1.

In view of the above, it is respectfully submitted that claims 1-3, 7-11 and 18-21 are currently pending.

II. REJECTION OF CLAIMS 1-3, 6-8 AND 10-17 UNDER 35 USC 103 AS BEING OBVIOUS OVER SULHOFF IN VIEW OF DRAKE

Claim 1 recites a wavelength division multiplexed optical amplifier comprising (a) a first-stage optical amplifying unit and a second-stage optical amplifying unit arranged in series with respect to an optical signal, where a first pumping light is supplied to said first-stage optical amplifying unit at an input side of said first-stage optical amplifying unit, a second pumping light is supplied to the first-stage optical amplifying unit at an output side of said first-stage optical amplifying unit, and a third pumping light is supplied to said second-stage optical amplifying unit at an input side of said second-stage optical amplifying unit, (b) a common automatic gain control circuit performing automatic gain control in accordance with the optical signal at the input side of the first-stage optical amplifying unit and the optical signal at an output side of said second-stage optical amplifying unit, producing a first control signal for controlling the first pumping light, and producing a second control signal for commonly controlling both the second pumping light and the third pumping light, and (c) a pumping light distribution function unit receiving the second control signal from said common automatic gain control circuit and, in accordance with the received second control signal, supplying said second pumping light to the first-stage optical amplifying unit at the output side of the first-stage amplifying unit and said third pumping light to the second-stage optical amplifying unit at the input side of the second-stage optical amplifying unit with a predetermined distribution ratio of $a:b$ ($a < b$) in their levels, which ratio is constant at any level of said first pumping light.

Claim 1 is amended to clarify the above features. Support for the amendments is found, for example, in FIG. 5, and the disclosure in paragraphs [0060] and [0065] of the specification.

Referring to FIG. 13 of Sulhoff, the front-stage amplifier 76 is driven by a forward pumping light only, while the rear-stage amplifier 78 is driven by both forward pumping light and backward pumping light, which arrangement is opposite to that recited, for example, in claim 1.

At the same time, the distribution ratio between the forward pumping light of the front-stage amplifier 76 (presumably corresponding to the first pumping light of claim 1) and the forward pumping light of the rear-stage amplifier 78 (presumably corresponding to the third pumping light of claim 1) is A:B. As indicated in FIG. 13 of Sulhoff, $A:B = 95:5$; thus $A > B$, which is different from $a < b$ recited in claim 1.

Referring to FIG. 1 of Drake, the front-stage amplifier 10 is driven by both forward pumping light and backward pumping light, and the rear-stage amplifier 12 is driven by a forward pumping light. This configuration is similar to that recited in claim 1.

However, in Drake, the pumping sources P2 and P3 (corresponding to pumping sources that produce the second and third pumping lights, respectively, in claim 5) are controlled by a processor 26 (FIG. 1) with a pump drive scheme as shown in FIG. 2 of Drake.

Referring now to FIG. 2 of Drake, although the pumping sources P2 and P3 are controlled to produce respective pumping lights changing in level proportionally to each other only in a range of C - D in FIG 2, the predetermined distribution ratio recited in claim 1 is not satisfied. That is, processor 26 is NOT operative to supply the second pumping light P2 and the third pumping light P3 to respective amplifiers 10, 12 with a predetermined distribution ratio of $a:b$ ($a < b$). At the same time, the distribution ratio $a:b$ is NOT held constant at any level of the first pumping light P1.

In view of the above, it is respectfully submitted that the rejection is overcome.

III. REJECTION OF CLAIM 9 UNDER 35 USC 103 AS BEING UNPATENTABLE OVER SULHOFF IN VIEW OF DRAKE AND FURTHER IN VIEW OF OHSHIMA

The comments in Section II, above, for distinguishing over Sulhoff and Drake, also apply here, where appropriate.

In view of the above, it is respectfully submitted that the rejection is overcome.

IV. CONCLUSION

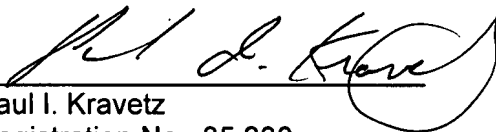
In view of the above, it is respectfully submitted that the application is in condition for allowance, and a Notice of Allowance is earnestly solicited.

If any further fees are required in connection with the filing of this response, please charge such fees to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: June 22, 2007

By: 
Paul I. Kravetz
Registration No. 35,230

1201 New York Avenue, NW, 7th Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501